



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,617	08/08/2001	Bhavesh N. Desai	ATT-026BUS	5264
22494	7590	05/18/2005	EXAMINER	
DALY, CROWLEY, MOFFORD & DURKEE, LLP			LE, VIET Q	
SUITE 301A			ART UNIT	
354A TURNPIKE STREET			PAPER NUMBER	
CANTON, MA 02021-2714			2667	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/924,617		DESAI ET AL.	
	Examiner		Art Unit	
	Viet Q. Le		2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15, 17 & 20 is/are rejected.
- 7) ☒ Claim(s) 14, 16, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/17/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 7, line 18 & 20: the router 16 shall be the router 12.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Izadpanah (U.S. 6,240,274).

Regarding claim 1, Izadpanah disclosed a data receiving system (Figure 7, receiving section 201) having at least one input, the data receiving system comprising:

A demodulator system for receiving packets in parallel over multiple channels (Figure 7, QAM MODEM 232 and multiplexer 238); and,

A tunneling destination (Figure 7, boxes 238 & 242), coupled to said demodulator system (Figure 7, MODEM 238), said tunneling destination for receiving the packets from the demodulator system and for serializing the packets.

Regarding claim 2, Izadpanah disclosed the data receiving system of claim 1, wherein each of the multiple channels are RF channels and each of the multiple channels are received at a single input of the means for receiving (Figure 7, MODEM 238. Column 8, lines 48-58).

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15 & 17 are rejected under 35 U.S.C. 102(b) as being anticipated by SP-CMTRI-I01-97084 Cable Modem Telephony Return Interface specification dated August 4, 1997, hereinafter referred to as CMTRI.

Regarding claim 15, CMTRI disclosed a data transmission system having at least one input, the data transmission system comprising:

A tunneling source (Figure 1-2; page 17, lines 4-5. Multiple tunneling source signals can be sent to the CMTS system from the backbone transport adaptor) having an input and a plurality of output channels;

A cable modem termination system (CMTS) coupled to each of the plurality of tunneling source output channels (Figure 1-2. Signals arriving from the tunneling source or arriving from the backbone transport adaptor to the CMTS).

Regarding claim 17, CMTRI disclosed the data transmitting system of claim 15, wherein each RF channel carries packets that are compliant with the DOCSIS standard (Figure 1-2. This is the DOCSIS standard document).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izadpanah in view of CMTRI.

Regarding claim 3, Izadpanah disclosed the data receiving system as described in claim 1 above.

Izadpanah, however, fails to disclose the data receiving system, wherein each RF channel carries packets that are compliant with the DOCSIS standard.

CMTRI disclosed RF interface specification DOSIS that RF carrier must comply in CATV transmission (Page 1, section 1. This is the DOCSIS specification that all cable modem transmission equipment must comply).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to make sure that RF channel carriers to comply to the DOCSIS standard, the motivation being that by complying to standard, the system would work

Art Unit: 2667

well with each others between all components of the data over cable system or CATV system.

8. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izadpanah in view of McCarty et al. (U.S. 6,704,353), hereinafter referred to as McCarty.

Regarding claim 4, Izadpanah disclosed the data receiving system as described in claim 1 above.

Izadpanah, however, fails to disclose further details of what the digital receiver consist of.

McCarty disclosed a digital receiver comprising of the following components:

An analog to digital converter having an input adapted to receive RF input signals and having an output (Figure 1, A/D 106);

A plurality of digital filters, each of said filters having an input coupled to the output of said analog to digital converter and having an output (Figure 1, filter 108); and

A plurality of demodulators each of said plurality of demodulators having an input coupled to the output of a respective one of said filters (Figure 1, QAM Demodulator 112) and having an output and the output of each demodulator being coupled to said tunneling destination.

It would have been obvious to one having ordinary skills in the art at the time the invention was made to implement multiple digital receivers as described by McCarty into the Izadpanah receiver section 201, the motivation being that by using the digital receivers, the receiving system will be less susceptible to noise and interference.

Art Unit: 2667

Regarding claim 5, Izadpanah disclosed the system of claim 4 further comprising a down-converter circuit which receives a first RF input signal at the input of the demodulators and provides a down-converted signal (Figure 7, Down converter 226).

Regarding claim 6, Izadpanah failed to specifically mention the filter is the band pass filter.

McCarty disclosed a digital receiver design consisting of components including digital band pass filter (Figure 1, filer 108. Column 3, lines 25-34).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to use the band pass filter inside the digital receiver design as described by McCarty, the motivation being that by using the filter, it will be filtering out all the unwanted noise to the system.

Regarding claim 7, Izadpanah disclosed the system of claim 4 wherein said demodulators are provided as Q.AM demodulators (Figure 7, QAM MODEM 232).

Regarding claim 8, Izadpanah disclosed the system of claim 4 further comprising a data transmission system (Figure 7, section 200).

9. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izadpanah in view of McCarty and in further view of CMTRI.

Regarding claim 9, Izadpanah and McCarty disclosed the data receiving system and the digital receiver as described in claim 1 and 4 above.

Izadpanah and McCarty, however, failed to disclose a data transmission system consisting of the tunneling source and the CMTS system.

CMTRI disclosed the system wherein said data transmission system comprises:

Art Unit: 2667

A tunneling source (Figure 1-2; page 17, lines 4-5. Multiple tunneling source signals can be sent to a CMTS system) having an input and a plurality of output channels;

A cable modem termination system (CMTS) (Figure 1-2, Cable Modem Termination system box) coupled to receive packets from each of the plurality of tunneling source output channels and to transmit signals on a plurality of parallel output channels.

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate the transmission side of the cable system including the CMTS and the tunneling source, the motivation being that by using the tunneling source and the CMTS system, one will have a complete system of both the transmitting and the receiving ends of the cable system.

Regarding claim 10, Izadpanah disclosed the data transmitting system of claim 9, wherein the plurality of CMTS output channels are RF channels (Figure 7, RF interface 222).

Regarding claim 11, CMTRI disclosed the data transmitting system of claim 10, wherein each RF channel carries packets that are compliant with the DOCSIS standard (Figure 1-2; Page 1, section 1.2.1).

Regarding claim 12, CMTRI disclosed the data transmitting system of claim 9, wherein said CMTS further comprises:

A CMTS router (Figure 1-2, Generic head end switch. Section 2.6.1. Figure 2-5. CMTS has a protocol stack consisting of IP packets. These need to have router in

Art Unit: 2667

connecting to the Internet), having an input coupled to signals from said tunnel source and having a plurality of output ports;

A plurality of channel modulators (Figure 1-2, MOD box), each of said plurality of channel modulators coupled to receive signals from a corresponding one of the CMTS router output ports.

Regarding claim 13, CMTRI disclosed the data transmitting system of claim 12 further comprising:

A hybrid fiber coaxial (HFC) network coupled to the output of port of each of said plurality of channel modulators (CMTRI, Figure 2-5, HFC).

A plurality of demodulator circuits (Izadpanah, figure 7, box 232), each of the plurality of demodulator circuits having an input coupled to said HFC network (Izadpanah RF section is the HFC section as described in CMTRI, figure 2-5, HFC) and having an output;

A serializer (Izadpanah, figure 7, boxes 238 & 244) having a plurality of input ports, each of the plurality of input ports coupled to a respective one of the output ports of said plurality of demodulator circuits and having a single output port.

10. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over CMTRI in view of McCarty.

Regarding claim 20, CMTRI disclosed a cable system consisting of the CMTS and other related components like modulators and demodulators as described in claim 15 above.

CMTRI, however, fails to disclose further details of the demodulator.

McCarty disclosed further details of the demodulator comprising of:

An analog-to-digital converter (Figure 1, A/D 106);

A plurality of band pass filter circuits parallel coupled to the output of said analog-to-digital converter (Figure 1, filter 108), each of said band pass filter circuits having a pass band characteristic (Column 3, lines 25-34);

A plurality of demodulator circuits (Figure 1, QAM demodulator 112), each of the plurality of demodulator circuits having an input coupled to the output of a respective one of said band pass filter circuits (Filter 108) and having an output;

A serializer having a plurality of input ports (Box 116), each of the plurality of input ports coupled to a respective one of the output ports of said plurality of demodulator circuits (QAM demodulator 112) and having a single output port.

Allowable Subject Matter

11. Claims 14, 16 & 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 14 is allowed because none of the prior art references taken individually or in combination teach the claim feature calling for a TCP gateway having an input adapted to be coupled to a router and having an output coupled to an input of said

tunnel source, said TCP gateway for terminating a TCP connection and for providing an acknowledgement signal a sending node.

Regarding claim 16, 18 and 19 are allowed because of their dependency on claim 14.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Le whose telephone number is 571-272-2246. The examiner can normally be reached on 8 AM -5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VL



KENNETH VANDERPUYE
PRIMARY EXAMINER

Application/Control Number: 09/924,617
Art Unit: 2667

Page 11